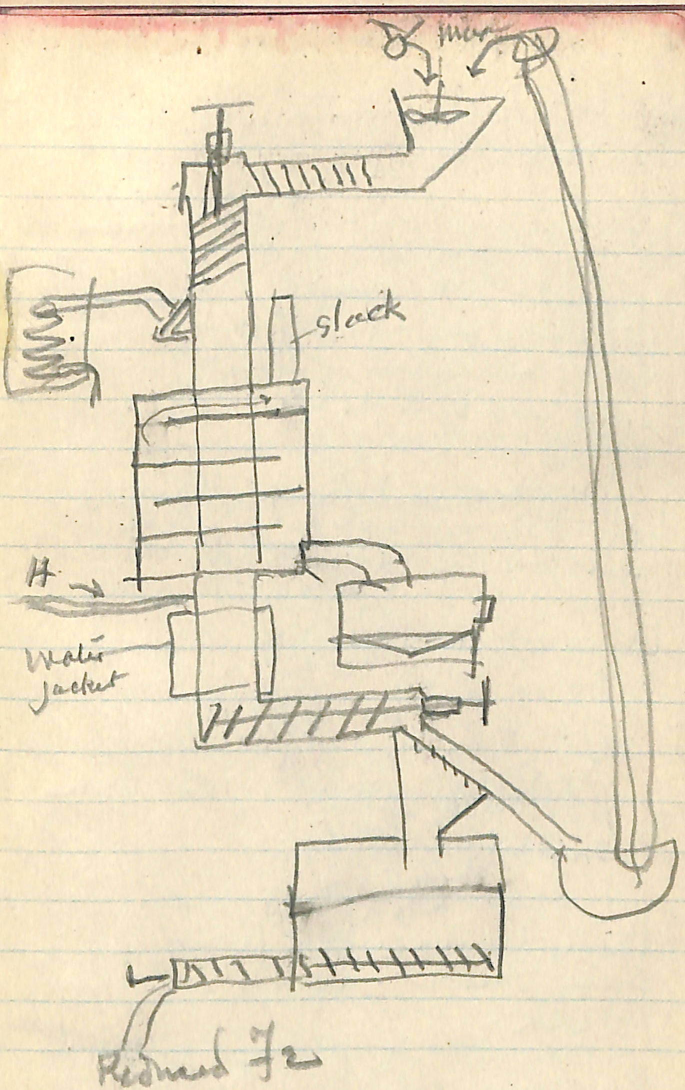
Pocket Notebook
PN 21-02-07 (1921)

This notebook dates from January - July 1921. The pocket notebook contains notes by Thomas A. Edison relating to experiments with storage batteries, Ford starter batteries, reproducers, phonographs, blank records, chemicals, rosin, Ediphones and diamonds. There is a list of department inspectors. There is also a sketch of a phonograph advertisement.

PN-21-02-07

☆2996

EDIS 223913


mix
slack
H
water jacket
Reduced Fe

EDIS 223913

See if necessary any longer to use the thin Rubber sheet sides of A4 cells

—

Look out for room for Regenerating for Ford starter
also start all assembly at end of building – get rid of wood partitions & wood in plant
Improve B cells iron capacity

Keep up enamel Expmt. Hart
Try lay over asbestos – stop heat on top of container

Enamel for Pots
Felspar 60
Borax 42
ZnO 12
Soda Ash 15
Saltpeter 2
fuses 1400 to 1500° Fahr

Batty Co uses bort for dressing Emery wheels uses lots as they break –

Improve air test Tubes for welds in cans

% Sales 5 yrs A type 71.6 G 6.1
B 18.7 all others 3.6%

250 gals wash water per Crane hour

Yee says 100 lbs green from old tubes need 25 lbs Na Hyposulfite 10 lbs Glucose = 1½ cents lb of Ni(OH)2
6 cents Glucose 4c Hypo

Organize batty works into Depts
1st Tube load, assemble in grid
2 Punch Press
3 Screw Machine
4 Load Fe & make Pkts
5 Stock room
6 assemble
7 Chemical & wash & flake dep
8 Electric, Crane, Testing, Forming
9 Part plating & strip & anneal
10 Rolling
11 Carpenter & Pkg
12 Machine shop, repairs
13 M8 small Cell
14 Repair Cells
15 Regeneration
16 General

Reproducers on hand Jany 1921

2 " "	2810
Amberola	203
Disc Points	3877
Amberola	3760
Complete Disc	45000
Amberolas	19000

Got 40129 Karat bort in addition diamond in all stages taken to Vault after shut down plus all the Mud stuff —

Air blown thru 3 hours at boiling peroxidizes $FeSO_4$ to ferric,

To peroxidize by 30°B Nitric at 6 cents 100 lbs $FeSO_4$ cost $1.25

---

125 gals wash Water each Crane hour

297 Cubicft Hour

7000 24 hours

In Varnish Experiments leave out China + Sandrac + Put in Lampblack 25% Extra than from old Var

Also same as above but substitute China Clay same bulk

In cleaning dirty moulds try dry - also moistened alcohol - also take a discard new mould + polish it Equivalent to 1000 times note wear

Also try buff wheels

19 Cranes 125 gals wash water per Crane hour
8000 Cubic ft daily

We recover 216 lbs Metal Cu
+ 557 lbs Nickel Metal
or 848 lbs Blue Vitriol
+ 2500 lbs $NiSO_4$ 7 aq
Saving at 14c $NiSO_4$
6c $CuSO_4$
$50 → Cu
350 → Ni
$400 -

Ni 1.026 per lbs
Cu 0.397
Fe 0.023
CaO 0.028

Expts on brush removing caked on films on working Moulds with alcohol 6 to 8 minutes 1½ brush – if brush covers all but label this will clean in 6 & 8 min – Dry without alcohol probably 12 min Removes dark matte surface which seems to be condensite polished surface under speed of ~~of~~ brush 1800 Rev Dia 2" Speed of table 140 Hog bristle – pretty coarse but works, think should be finer

---

~~82076 Ah Non Credea~~
~~La Sonnambula Anna Case~~
~~Tears out on top of Hills~~
~~= test for Varnish~~

~~Varnish ↑ Test~~

use a .005 steel wire as a
fly cutter removing hills
in Females. Can see thru
it with Micro —

Find out source of
Dirt Specs —

~~Make ½ doz cracked blanks~~
~~for running down~~
~~dirt specs — use Millers~~
~~new wax~~ (Miller notified)

~~Be sure + see that 1st~~
~~Female & Master goes~~
~~back to Vault.~~

Put feed screw on
micro table so feeds
one area with index
for examining M & Female

or 4" 75 turns per
whole record. perhaps
power rotation or
ratchet rotation by
power

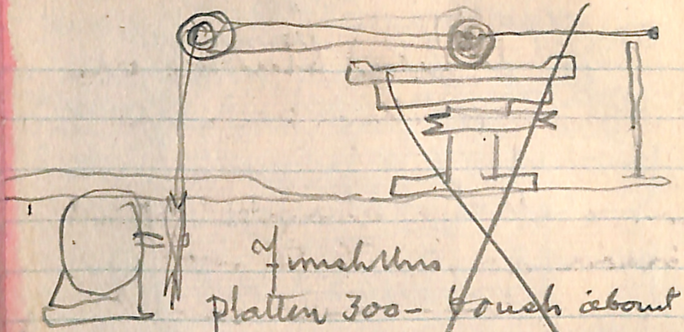
~~See Simpson about Cushioning~~
~~the phono mechanism in addition~~
~~to the Cabinet in Packing Experiments~~

~~Follow up Hayes in Duplicating his~~
~~good recorder, thick overhang rubber~~
~~wide ring. Japaned terrace Diaphm~~

~~See Doughtery Lithia content 6~~
~~tumblers.~~

~~Simpson = Lay out wash~~
~~water flake building~~

~~Watch Moore Label expmts~~
~~also sticking on without using~~
~~glue around record~~



~~Finish thin~~
~~platten 300 - touch about~~
~~2000 possibly a cover of~~
~~silk~~

~~Hart - get 1 doz small test~~
~~Cell nickel plated Cans for~~
~~Lithia Expmts,~~
~~Can use 40 grm expts -~~

~~6 put up 10 grms solid lime~~
~~in tandem, 2 days each start 1~~
~~wait 2 days pour into 2nd soak~~
~~2 days - then to 3 + end up 12~~
~~days Et fig + our~~

~~Try cleaning records with~~
~~China clay etc + brush~~
~~no alcohol -~~

~~Put thin tracked blanks one~~
~~per day + follow each one~~

~~Inspect the grafited blank~~
~~before goes in bath →~~
~~see if done now, inspect~~
~~Master - Female + Mkg M - Keep Recor~~
~~Try new grafiting Machine -~~

~~Have one of the treatment~~
~~men make dust card -~~
~~Write down 1st Dip 1 min~~
~~+ 2nd 30 sec thereafter~~

~~Get from Jacobus some~~
~~of the new Masters that~~
~~have large porous and~~
~~streaks we cant repair~~

~~Then use baby brush +~~
~~grafitize mold + make~~
~~a Master - these will fill pores~~

82% of all moulds
taken from baths
get to Printing presses

But following got off Reg Press
Sent from Presses to Lathe
for fixing bushings or
something 6.4%
Repaired sent to Sample
press but wouldnt pass 11.3%
Running Press 4.%
Discarded because
800 prints made 10.6%
Runs finished 50.2

This is history of
3783 discarded

Feby 7 1921

Grade 1	50 Records	1000.	
" 2	50.	800	40 000
3	50	600	30 000
4	166	400	66 400
5	500	300	150 000
6 all others		200	120 000

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1 ~~H. S. apparatus~~ ○
2 Wash Water + Cu_2Cl plant ○
3 ~~Visual boards~~ ○
5 Conveyor for powder for Grinders
6 Resin Soap blank
7 Reaming Machine Amberola ○
8 Washing Machine ○ "
9 ~~Labels~~ ○
10 Enamel for Pots + better distribution heat ○
11 New High V CuOH MgOH Cell ○
12 Regeneration Mix from $Ni(OH)_2$ ○
13 " Iron
14 " Cell parts
15 Establish Method Making $Ni(OH)_2$ ○
16 Test room + loading lab at Chem Wks
18 ~~Classifying Diamond Dust~~ ○

19 Finish Diamond Dept ○
20 Personally Crack diamonds
21 ~~Keep up Candelilla Master Expts~~ ○
22 Auto powder blank loading ○
23 – " Record handling of moulds ○
24 New Diamond Cracker
25 Lithia Mine ore process ○
26 Design new Ediphone ○
27 go over tools for Bates
28 ~~New Aviation Cell~~ ○
29 New hand Lantern ○
30 ~~Improve M8 double capacity~~ ○
31 See new Ni foil apparatus ○
32 ~~Recovery all scrap products~~ ○
33 artificial substitute for Celluloid ○
34 Silvering Masters ○
35 Test new graphiting Machine ○
36 Rearrange S Bat assembly ○
37 " Small Cell " ○
38 ~~perfect packing phonographs~~ ○
39 " new Recorder ○
40 Make Loud Reproducer
41 Automatic Control Print process
42 ~~Design a repair Mach Moulds~~ ○
43 get small scale graphite purifying

44 Follow thru the Cabinet partition
Dipping factory
45 ~~Brennan Varnishing Machine~~ ○
46 Design a " "
47 ~~" Machine wash Records~~ ○
48 Sudbury Ni Ore process
49 ~~Payroll boards all factories~~ ○
50 ~~Butler Powder Attachments~~ ○
51 ~~Label pasting Machine~~ –
○

~~get in touch with City of
Mexico + also Madrid &
get all the old Music
possible.~~

~~get up Machine for screwing
+ unscrewing Disc in Moulded
holders – possibly auto
feeding of screws~~

~~See if can leave blank high in
Center by changing shaving & cap the Mac~~

~~Folsom take discard Masters polish break & do this 8 times let me look at Each time after plating 4 hours & stripping in Ni~~

Rosin soap probably has a high Melting point if so we can use more of it without flowing blank too much & get a better surface no acid but water proof Edge - risky -

~~Continue Viscosity Expmts for Varnishing to get better surface~~

See how can get wax Master surface run True Or put Master in a frame outside & blow it off & then set in box & grafitize reg. way

Look a old Master from Vault that was blue from Selenium how it polished off & looks under Micro ~~& if Jacobs soaked in Alcohol to get shellac Spots off~~

Smith, Put Bismuth back into a new solution of Soda & new Zinc Charge again & see what occurs

---

Make some $NiOH$ with grafite well ground, then press it in thin Cakes & Crack up to pass 30 mesh load into short tubes & test, use flake and without flake

Also Bismuth & grafite into tubes 10% Mixed with Reg $NiOH_2$ & Runs

Also Bi OH precipatated to make anhydrous, crush + grafitize load short tube—

~~Tell Hunter he need not boil precipitates 60 Centg for 1 Hour makes filtering Rapid.~~

~~Smith try Bi OH + Mg OH or was the Bi OH made this way~~

~~Hoffman = Want to increase Viscosity by thicker Var more body + not by thickening by allowing to condense~~

~~Also try Var without Lampblack~~

Possibly precipitated Zinc OH mixed with grafite in ~~[illegible]~~

be reduced to Metal thus with $Ni OH_3$ or $Cu OH_2$ $Mg OH_2$ or $Bi OH_3$ will act as storage battery

There is Ce_2O_3 6aq CeO_3 Perox + CeO_2, [illegible] 2. CeO_2 $3H_2O$
Try with grafite—

Try $Fe(OH)_3$ Ferric Hydrox with grafite—

Mercuric Hydroxide & grafite low temp

Wonderful
Strontium Hydrox
Sol. 47 pts in 100 H_2O
at 100 Cent — Hot battery
$Sr(OH)_2$ 0.25 at

$Ba(OH)_2$ 34 at 100 Cent
5. at 15 Cent

Yttrium hydrox $Yt(OH)_3$

Zirconium hydrox Zr
$Zr(OH)_4$? ?

~~Find out what the Cleaning Solution Clancy uses is made of this probably gives the Silver streaks Hoffman says new moulds given when never touched with $SnCl_2$~~

~~Try wet grafitizing on wax~~

Try blowing the grafite on + perhaps dry brushing afterward

~~Try reg grafite as used on wax masters on a Mould that has pits along Music + Plate see if holed filled~~
wax master

Make a mush of grafite + water + let it drop on wax 6 ft high if ok get a feed + put on ground —

~~Use Silk + Rubb wax under water Containing grafite~~

~~$SnCl_2$ Try wiping blank instead of Molded~~ | 1/2 strength

~~Get Yee some complete grids with tubes see what he can do with them —~~

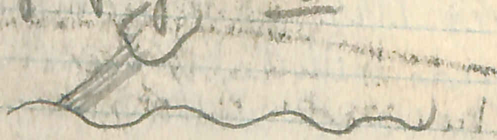
~~See how switches on baths are connected~~

Fixture to wash with Gasolene to Vasolene off of Masters + Vault females, Cotton finally

~~Reject wkg M man in Garrage
Have rejects Mould + print sent
to him — Does he get 2 prints
If not arrange with Clancy
for that after Moulds
Rejected to make 2 Extra
prints to be relasted —~~

Clancy dont make formulas
or McKeen on night shifts

Put Label on (marked) blank
+ grafitize + last —



Try Reproducer point,
a bristle brush

Use Caramel perhaps Slight
Glucose to soften mixed
with an abrasive (gentle)
for Cu Masters

~~Rosin soap thick mixed with
Gentle abrasive use like
Vienna lime — rather dangerous
from Soda —~~

~~Rosin alone then lift brush
+ wash disc with weak
Soda —~~

For Grafiting we use
.097 Dixon grafite —
So called Amorphous + we purify

Mellon Institute Expts

1000 ft of pipe surface
with steam at 100 #
lbs pressure per square inch
loses 300 tons of Coal
annually — I space 24
hours 3 BTU per sq ft
per hour per deg Fahr

Experiment on CuSols for plating
Copper without acid
Try formaldehyde —
Excess Na_2SO_4 & K_2SO_4
Borate soda — acetate
soda Etc Grafited
stripe

~~Do they blow off
Holder before putting
in bath — specs
may be on holder
& in put in bath
strip off float on
surface & cling
to grafited roof
Perhaps whole
thing showers~~

~~with water would
be best~~

~~Another thing —
"Same number of
inches should pass
under the brush
Have we that.~~

~~Test the 3 grades
of flake — test thick
flake in Machine
See how + get yield
per day.~~

~~Part 2 Inspectors~~
~~Inspecting Record~~
~~in Stock Room~~
~~after then come from~~
~~Taylor —~~
~~Check to help them~~
~~to teach + check~~
~~Taylor —~~

~~If Wax not covered~~
~~Enough with grafite~~
~~and gets thru + we~~
~~get millions of pts~~
~~If Wax runs out~~
~~we get a line of~~
~~Pitts 1/2 way round~~
~~that is due to~~
~~bad covering~~

Wax must be run
true + more grafite
put on + floating
grafite + give time
to have flake over
every spot
then polish with
Silk wheel —

~~Finest grade of grafite~~
~~next to our amorphous~~
~~grafite which we also~~
~~get from Dixon~~
~~who call it #097~~
~~is 0513~~
~~which is probably 50 times~~
~~larger most of it is~~
~~001 0005 + larger up to~~
~~005 altho these may be~~
~~small stuck together —~~
~~this seems to cover just as well~~
~~as 097 we use + the~~

~~Resistance & covering by Cu should be very much quicker – Have askt for some~~

~~Get names of parties negotiating for Cement works & send to [illegible] –~~

~~Folsom I think the ends of the hanks of silk on brush wheel should be cut so then can polish bottom of grooves of wax masters they dont do it now & make pits~~ – Look at new wheel

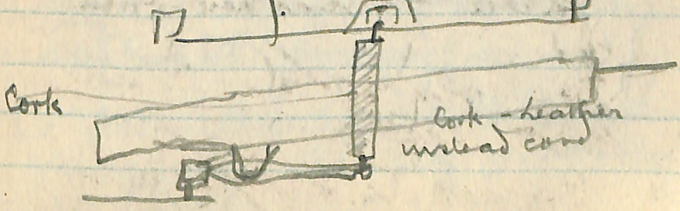
~~Possibly we should use more acetic –~~

Raised to 3cc per liter

~~Get latest assay of nickel of baths see if strong Better try Experiment of Raising to 2½% instead of 2% & see what it does –~~

~~Ask Archer if raising the acetic didnt stop bubbles in his fast nickel plating~~ Yes

~~Ott to test strip of wax with our Red grafite & fine flake grafite recd from Dixon to get rate of Covering use Camel hair – 1st Covering both before brushing –~~



Candellera + Stearate Lead
16 Pb stearate to 100 Candellera
OK 25 Pb Stearic too soft
perhaps lead Stearate had
too much free Stearate

~~Use various Lead stearates that Doughty makes with Ceresin + other waxes to get water + acid proof wax + less tracking noise~~

~~Devise a good practical machine to Clean Vault masters of Vaseline~~

~~Look out for spatter from floor on face of Moulds in rack~~

Test Candellera Expts with other things that is promising

Phenanthrene 3/4 to 25 Candlla
Cut good stix dish, dont Crack

4cc Castor Oil 50 Candella 6cc
too soft

Spermaceti 25 to 100 Candlla
Good Cut, Crax in dish when
Cut at rim

Japan wax 16 to 100 Cdlla
Cuts good. 25 too soft, slight
Crax at rim

36 Stearic 100 Candla Cuts good
dont Crack

16 Lead Stearate 100 Candellera
Cut good 25 too soft,
but all good Cut - no shrink
36 to 100 Candellera still
softer Promising

16 Salicylic acid 100 Candella
very fine 25 ng probably
10 best

~~It is possible that the black Clots & smears which appear on polished discs is due to the softening of the Hair by water & as its dirty it makes the smears which are not soluble in H_2O or Solvents~~

~~its supposed to be tanning oil~~

~~To get rid of this will have to make wheels of Linin or artificial silk made by Viscose or Cupric Ammonium or Denitrocellulose~~

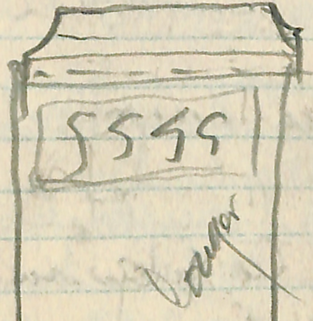
~~2 Machines Plating~~
~~2 shifts for polishing~~
~~3 machines~~
~~3 shifts Polishing~~
~~wkg Mondays~~

~~Driscol Make a daily report No of men where wkg & on what~~

~~If Carpenters at Bat on dif work put under Driscol if steady do not.~~

~~New Chemist to work out method freeing sol $FeSO_4$ of Manganese~~

NEW
EDISON
PHONOGRAPH



Come in and hear Comparison with other Phonographs
EDISON SHOP 10 5th av

Don't forget this

Celeste - a musical Inst
say fine on a Record -
64807 Victor - Twilight
Galli Curci

Get Numbers men in the
dry depts the Inspectors
are now to run
& get Report each
day of Number
Employees & Output
to check -

Dykeman says Mch 1
40952 Complete Phons
15333 Cabinets on
hand unsold —

Doughtery Make 50 lbs
Stearate Lead
& 5 lbs Stearate Alumin
& 10 lbs Stearate Zinc

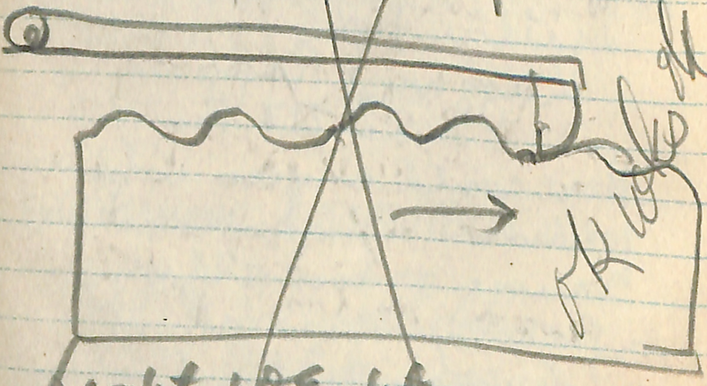
from above mould at
5L 3 or 4 disc with
40 & also 50 Stearic,
& Track & grafedges
& plate -

Tutti i Fior
Lazzari & Rappold
82213-R -
How could anyone who
pretends to understand
Music record such
a Record Music all out
of balance too loud wrong
instruments 2 singers can't
sing together & pulling a
shake like Rappold in

6
~~Storage Battery used~~
~~in 1919 27000 lbs~~
~~Ni ammonium Sulfate &~~
~~51000 in 1920~~

~~Why not use some of~~
~~the Amberol stock room~~
~~for disc —~~

~~The Doctor or Fred all~~
~~a drag Cutter with knife~~
~~to take off bits in [illegible]~~



OK Walsh

Light weight —

Camel brush graphite mixed
with binder a sol not sol water or
affect wax for edge of
Masters

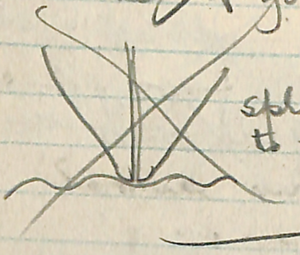
Have we ~~Sweet~~ Violets

Lay off 9 ~~girls~~ in Hayes room

~~Maxwell say nothing in~~
~~any publication about~~
~~How we get hits quick~~
~~of word fast placing is~~
~~used Competitor will~~
~~knows the line line &~~
~~Can call in Experts &~~
~~sooner or later get it~~

~~Tell Fagan have Monahan ok~~
~~for anything new.~~

~~ask Fagan~~
~~What is Benderson doing~~
~~if Cant let him go~~



~~split Repder balls~~
~~to remove Cracked~~
~~tits from females~~

~~Folsom to profiling Tracked~~
~~blank over once + dont~~
~~Return to prevent Reversing~~
~~brush -~~
~~ditto over twice -~~
~~Better start at Center + go out~~

~~Test new polisher + if ok~~
~~Install in plating plant~~
~~with new man in charge~~
~~Masters + females, do all~~
~~he can + get another A man~~

~~See how long it takes to clean~~
~~a dirty Working Mould with~~
~~Emery + water,~~
~~Determine Standards +~~
~~Cycles -~~

~~Ask Dalley if we cant~~
~~use his Loader only~~
~~1 man working several.~~
~~for just Loading only~~

~~2 Machines for Masters 60 daily~~
~~8 hours polishing + micro~~
~~15 min per cycle~~

2 Mach for polishing out chatter
20 min for polishing + micro 48

~~2 Machines plain 2 min~~
~~polish on 250 wkg females~~
~~480 -~~

~~6 Machines Wanted only~~
~~4 Making~~ 6 men + A man

For very easy cut no drag & fairly amorph but not hard

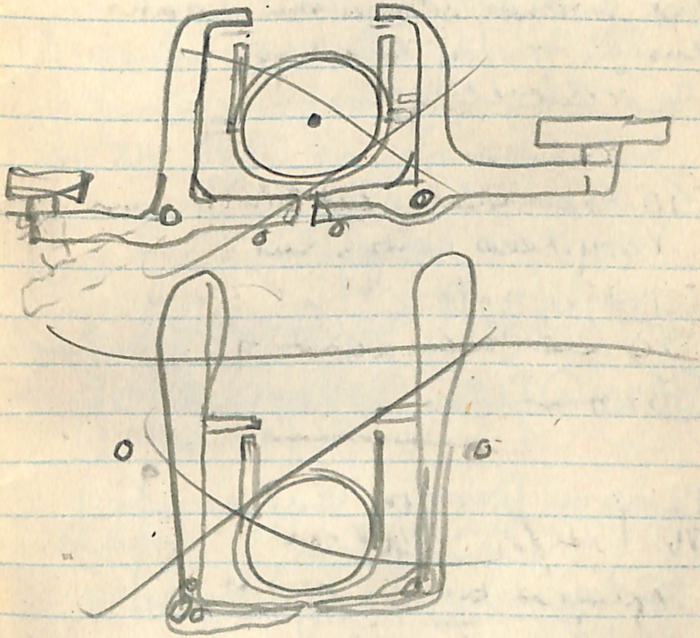
50 Stearate lead 40 Ceresin
is good No contraction
60 Ceresin shows few stains
80 " little draggy
Try disc

50 Pb Stearat 20 Stearic acid
20 Ceresin 10 Carnauba
OK physically & Cut good
Harder than above
Try disc

~~Mch 21/21 Hoffmann Man~~
~~Repaired bad Centers in~~
~~prints with plug of~~
~~Condensite powdered~~
~~Inspected 151 146 OK~~
~~96.6 o/o Cost wages~~
~~etc 4.98 per 100 -~~

Mch 21/21

Shift on new Ediphon



25 Candellera 8 Carnauba (Brown)
Hard – dont Crack much
Evidently Carnauba & Candellera
is OK for very hard if can
get proportions so it dont
Crack – Try slow cooling
No Chill –

50 Stearate Lead 80 Ceresin
Very deep easy cut

50 Stearate Lead 40 Spermaceti
Extraordinary Deep cut

12 grms Brown Carnauba
25 " Candellera
Extraordinarily Hard

8 grms BCI Kauri
25 Candellera Hard – Crack

18 Brown Carnauba
25 Candellera Dont crack as
much as 12 Carnauba –

A or AB man to check 2
final inspectors
in 24 After Eye Inspection

50 Candellera
10 Bleached Montan
good chilled v.g. unchilled
Make Disc

ditto 50 Cand 20 Montan
only chilled one good

ditto 50 + 30 chilled
only

ditto 50 + 40 both
good both ways
make disc for all [illegible]

Flake blows out loading tubes
+ scatters over mould is
this saved →

3/16 Machines has Lights
Continuously burning why
not use grease + lay
them up

Henry Clash polisher
under Jacobus is let
off J Kaye good man

~~Hunt up Smiths report
on Tanks in STb alley
for Simpson~~

~~Find work for the Russian
Chemist~~

~~About a special discount
to Monnot for, Calls over his
Reg orders or something
like that~~

All Electrical Stores line of
Samples ship direct to
Customer, S Bat.

Phonographs ~~[illegible] there~~
Sample Turn table
ship direct to Customer

~~Flash Light Storage battery
+ Cord + Res for Chg DC~~

Condensite — L A Jaloustre
EP 139 147 23.9 19
Addn To EP 138 061
Equal wts phenol + 40% formaldehyde
in presence of 5% on the wt of the
phenol of Sodium Salicylate or Ammonium
Thiocyanate is mixed with 2%

of the wt of the phenol of
Sodium Cyanide & heated to
95° - 100°C in open vessel gives
solid insoluble infusible
acid & Alkali-proof product
Chem Indust Feby 28 1921

A Hard insoluble non conducting
Resin is produced by condensation
in a single Operation of Phenol
& Acrolein & about 1% of
Caustic Soda
The acrolein may be replaced
by a resin or polymerised
product thereof.
C Moureu E P 141059
31. 3. 20 Conv 31. 3. 19
Soc Chem industry jnl
Feby 28/21

Stopping Swelling &
Varnishing on Edges may
be cause of present Low
prints

~~Polish Dalleys Moulds~~

~~Arrange to stop SnCl2~~
~~when we send up polished~~
~~Moulds -~~

~~See new polished 10kg~~
~~No tin used No repolished~~
~~if kept bright tell~~
~~Manchester -~~

~~Gibbs I want to get up~~
~~a good Looking attachment~~
~~Costing not over 60 cents~~
~~labor & material which~~
~~Can be clamped to our Reg~~
~~Repdcr to play needle records~~

Whales
Staggered holes in
our main springs &
lubrication to stop
Chugging suggestion
R Crump 1110 S Broad
St Newark NJ

Envelope on records
~~Cut 1½" deep with~~
~~Radius of the record~~
~~so can insert record~~
~~in whole in the Cabinet~~
~~without using 2 hands~~
~~to open the Envelope~~

~~Substitute Condensite~~
~~for Shellac in Disc~~
~~Diaphragms. wont~~
~~oxidize or warp.~~
~~Ditto. Koppers Cumarone~~

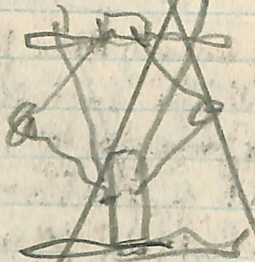
~~Carbon copies be made~~
~~by inspectors so all get~~
~~them right off – Especially~~
~~plating –~~

~~Arrange for seperate~~
~~Control Man for~~
~~Hut Dept –~~

~~Air Compressor in Engine~~
~~Room supply 24 bldg~~
?

~~5400 lbs Ice 2 men~~
~~I saw may be more~~

Where pkg oil cans
Why a man
When girl will do
fix Disc Governor



Follow up change
of shift ~~press~~ Dept

Fred Ott - find the squirting
die we made for Celluloid Co
if Cant find make one for
Hydraulic press for Experiment

Doughterty say two Johnson
36X36-1 Corner fed
Johnson presses &
two Shriver 36X36-1"
Corner fed Iron presses
Says for N. Ott. Johnson
best, Can have them
now, be sure about this -

get 500 blank with
old Varnish to test
polished Records to
get rid of darkening

Find from Moore how cast iron rings go on powder blanks also if he got the Cast semi steel iron

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Substitute Celluloid amberol records

Peachy Rubber process Lead one of the Rubbers in Bengal with Clay Etc + the HS-Coat on cylinder, then put in SO2 until Cured

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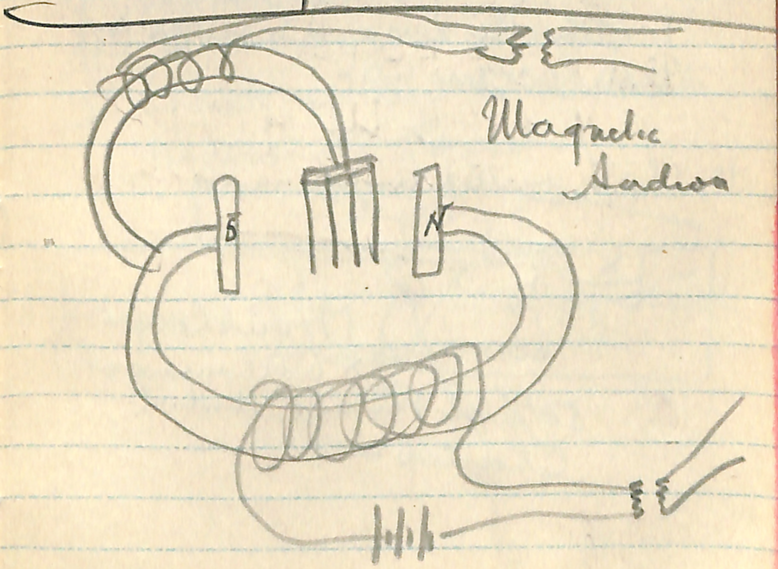
Year ending Feby 28 1921

Disc Catalogue	23,754
Re Creation "	89911
" Supplmts	58578
Natl Magazine	572205
Farm Papers	204381
Along Bdwy	56675
Diamond Points	8629
Artist + C booklets	11288
Amberola Rec Cat	43142
" Sup	16509
" Monthly	5790



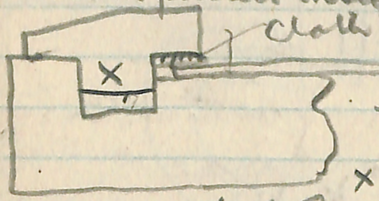
Magnetic Audion

Gaskets for Mouldholder

1 Lead wire
2 " sheet drawn into tube
3 Cotton string
4 " " Knit
5 Paper
6 Asbestos.
7 putty
8 Silicate Soda

9= Soft Material or Mechanical device, to press hydraulically together the ring + holder & then screw up

10 cloth pasted inside ring



Trouble is x bottoms on 50% of Rings didnt clamp —

~~See what Allengarden gets Advance Mager + give Townsend same as Neill — Advance Boyd to 40~~

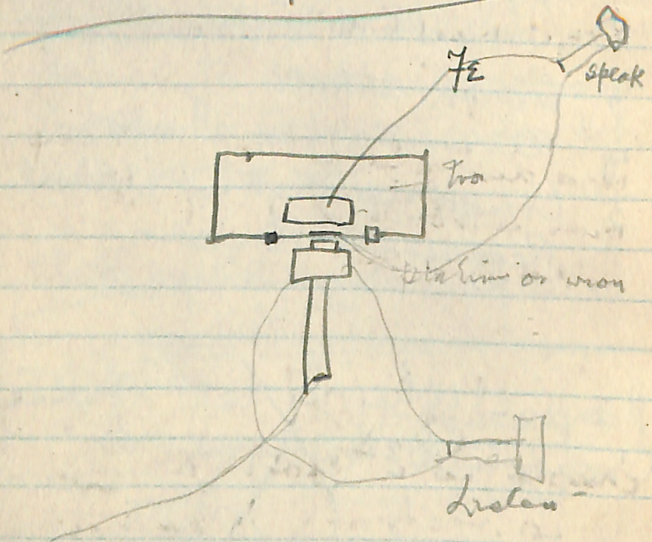
Reprinting Repeats

1st Pad strong soda warm to soften Varnish
2 Chamber + Vapor Alcohol
3 Soak alkali
4 ammonia Vapor
5 Crack up put in Alkali Regenerate Powder

~~Hayes — Why no test of steel Crosson Diaphragms~~

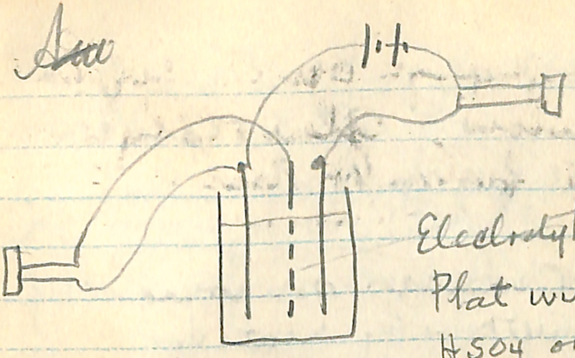
Campaign on artificial
Celluloid glue + Glycerine
with fathers + Readers

Heat plates on truck
50 300 When go in
press, ~~+~~ Cool out 3/4 put in
racks + congest, + cool Can get
4 Rounds per hour



Depositing iron + off —

Ass



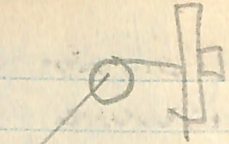
Electrolyte.
Plat wires —
H_2SO_4 or NaOH.

probably

Knit Knit Knit
Gladys Rice

Big dust holes 20 to 40 in group
formula to be made + Repaired on
Machine —

~~Paulin Why is a girl~~
~~Employed to make out~~
~~Card reports When the~~
~~man in chg can do it~~
~~without Expense —~~



Metallic Magnesium
Cylinder Oxidized in flame
or Current + then made
anhydrous by heat for
Osmotic phone

~~See Paulin about his bookkeeper~~
~~posting blotter of Umbrella~~
~~Dept joint account wages -~~

If funnel Elongated
12 ft, Then 48½ away
is same as 36" away
on present funnel
without the flare

Length without flare
38.9" 1¼ x 18½

~~A Man in Powder Blank~~
~~in Place of Burke~~

~~A man with Neff in~~
~~place of Townsend~~

~~A man understudy for~~
~~Boyd.~~

~~A man for Quick plating~~

~~A man for Varnish +~~
~~Rosin Mix~~

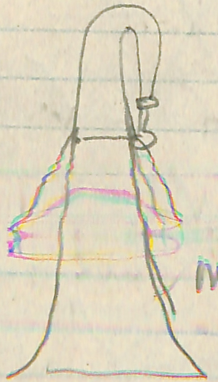
~~A man in place of Wolf~~

~~A Man in place of Wallenstein~~

A man place of Taylor

A Man Inspector 24

Redesign Horn & make new Speaker
Cushioned outside & but. horn
longer. also with dia on overhung
rubbergasket thinner built up
dia to get louder reproduction



Make an extension

Horn go in own

Reg horn where bell joints
to see if louder before designing
Reg horn

List of AB men

William Schaaf
Charles H Ramsey ✓
H M Weiss
Chandler Burpee ✓
Lloyd E Conroy
Harrold J Mahnken
Hugo F Schmidt
Eric V Sandon
Wm G Wilson ✓
Seymour B Many
~~Odney Nolton~~ ✓
Arthur R Schulze
W P Kiernan -

Mch 20 ~~78/00~~
~~new OK bag filler~~

Get 4 off same
Mould — Mark
defects, 1/4 hour each
Fred Ott make index
on my table —

~~Dally grind several~~
~~Bags Reg powder~~
~~+ get Max capacity~~
~~when screen cast~~
~~is as quick as~~
~~Fuller Mills~~ —

~~Try experiment Wiping N9~~
~~blank with Cloth with~~
~~Rose oil~~

~~Decide about Dave~~
~~in Handle breaking~~
~~bones of hand~~

Internal Lap Ruff grinding 25 stones
3½ hours 20 ok 5 broken

2nd Expt 25 stones 23 ok 2 broken
3½ hours —

Eaton did both himself

Got a girl she does 6 points per
hour + approx 15 points per Karat

Ether, Alcohol + Worst
Acetone dissolves Baked
Varnish Blank TetraClC
+ gasolene ~~do~~ Benzol dont
dissolve

1 A man comming ~~Wxy~~ 1
1 D man for Folsom ~~"~~ #125

Smith Try chg 2 strips
lead in Warm PbCl
in which its sol +
then Cool + dissolv

Throw Acetate Lime on
Coal fire - radiate Light
get more heat out in room. S

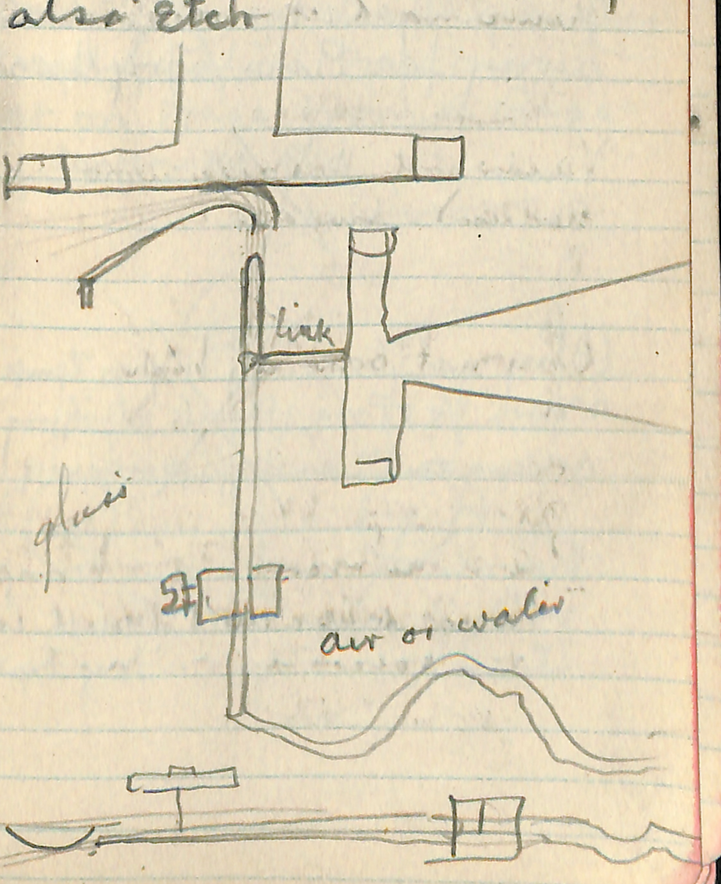
Give Han~~ley #~~ 1~~00~~0

Perhaps very finely ground
200 mesh or finer Polish felspar
mixed with salt + put on soil
+ Exposed to soil will
give KCl

Apl 24 / 21

For Diamond Lap -
Harden slides Etched
with picric acid in Alcohol

Also grind the 150 alloy
samples in Pill boxes
also Etch



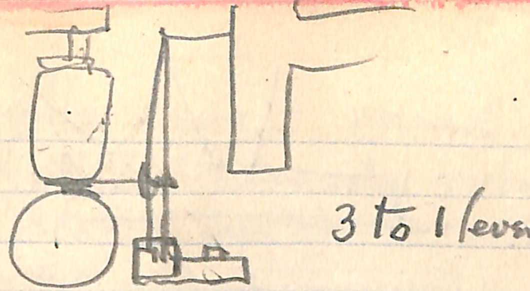
~~Folsom dont forget Matter as working Mould Hayes Blub Expmt~~

~~Werner make more records Piano see how loud without Jumping Out – also distance away for Piano – Try Harp~~

~~Vandiveert, Has piece work been Reduced – Answered.~~

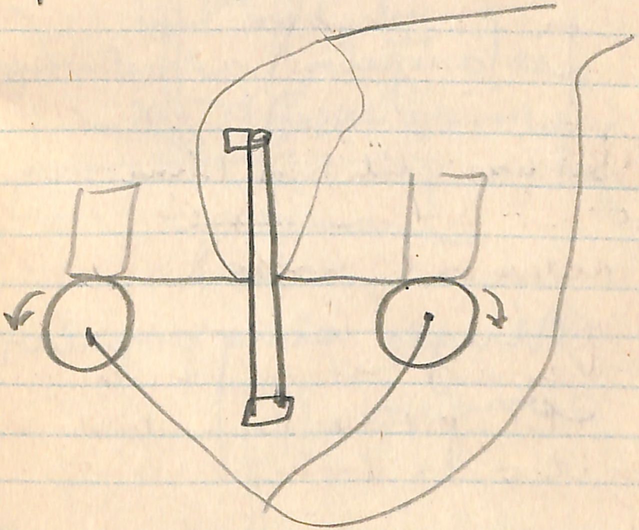
~~Why not bake at higher Temp or more 6/4 & Para, think sticking occurs on 1st part of pressing~~

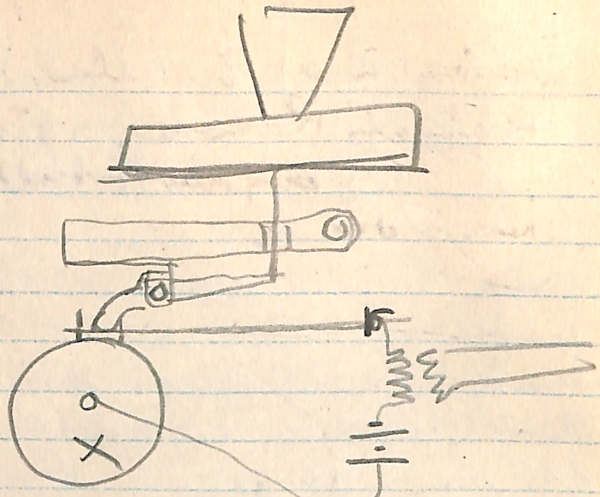
Revolve record & use soap & Rouge water with Brush to Clean records – Try Expt –



3 to 1 leverage

Have Werner see the highest Amplification he can get on Disc from a Disc – by leverage etc





or direct.

Polarization adjust weight + get right speed to X— + use coil high turns,

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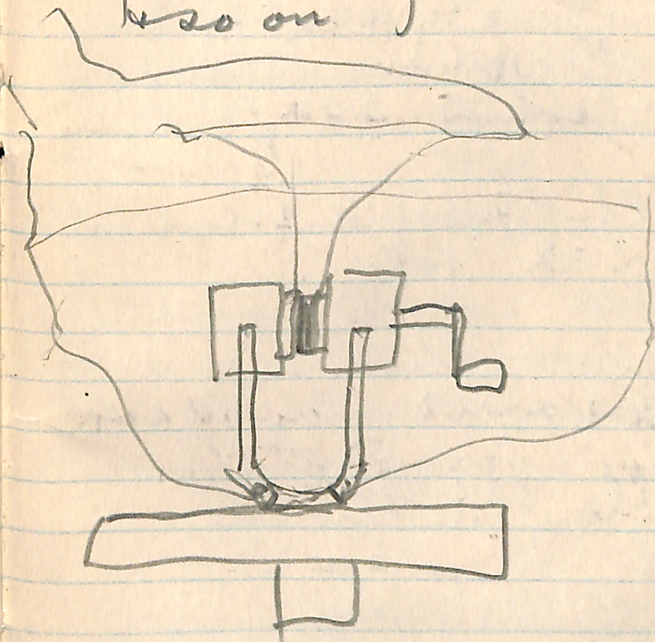
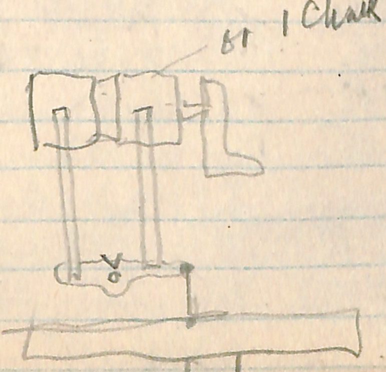
Muzio sing popular songs—

Take 2 or 3 rated Bad Polish Records, rate, polish again + rate + so on





Tried following Solutions to wipe moulds to prevent Pull outs of Veneer:
Using twice by weight of the $SnCl_2$ we now use dissolved in Alcohol 28th/21 apl

$ZnCl$ – Pressfull – 24 turns
8% ok 16%

$MgCl_2$ several rounds 100%
but 1 round only 16% ok

$LiCl_2$	83%	50%	50%		
KCl	66	16	16		
NH_4Cl_2	all stuck				
$CaCl_2$	100	66	66	83	100
$FeCl_3$	100	100	66	16	66
$FeCl_2$	83	66	83	16	100
$MnCl_2$	16	66	33		

Aluminum Chl $12H_2O$ – Al_2Cl_6 $12H_2$
18 Rounds All 100%

$LiSO_4$ $1H_2O$ NG
Lithium Silico fluoride 2 Water NG
Nickel Chl $6H_2O$ Good.
16 prints 1 PO.
Lead acetate – Very Bad
Zinc " all discarded
Mg " ng
NH_4 " ng –

Al Chloride II run 40 press
loads 480 Records
466 OK 1 Com 13 Veneer PO
Records look fine –

Glue painted over dried treated
Formol ō Emg + moved
KOH,

~~Brady see if 40% Condensite Diaphragms are attacked by Alcohol~~

~~Wurth for gold~~
~~plating Discs~~
~~& Amberol -~~

~~get 1/2 doz same 800~~
~~lines & examine Micas~~

~~$5000 new man NY~~
~~garrage 75 vehicles~~
~~25 men (about) -~~
~~Suggest Halsey had~~
~~100 men during~~
~~war in govt garrage~~

~~Must be sand & steel~~
~~in our powder, Wash~~
~~10 lbs in pail & Examine~~
~~Residue~~

~~see Paulkin about Press~~
~~men straight salary~~

~~1st - go over see Smith/start him~~
~~Rerounding & polishing phono~~
~~works points - also examine his~~
~~sand & Crushing Machine & see~~
~~if couldnt get bigger & better points -~~
~~Arrange things generally~~
~~Blotter for Smith - Meadcroft start it~~
~~see if Smith has Luhrs letter~~
~~also if Younger runs line~~
~~2 = Furnish Gibb some bad~~
~~rejected Females that makes~~
~~bad working moulds &~~
~~run them thru cracked removing~~
~~Machine~~

Have Boyd come over & study
up repairing with another A
man if can get him

3 Start Doughtery on McCrucible
Grafite making - suggest finish
with Hydrofluoric.

4 = Look at Etching

5 Finish Lampblack test for sand

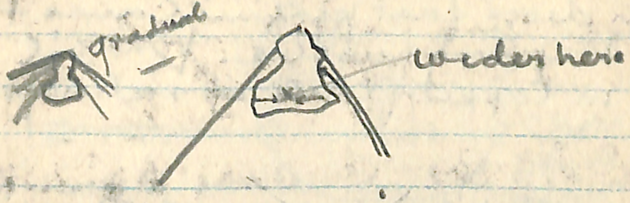
6 Get Varnish dilute 2 to 6 times
~~[illegible]~~ - & test with glass
under micro for lumps -
& arrange a regular test.

7 See what Fred Ott doing

8 See Smiths work -

9 = Diamonds - think Smith used
no judgement in selecting his
points, if too small won't hold
if too large too much grinding
& Cracker may not be operated
right - start him mfg -
& working up all phono point.

point should be over the Center



possibly too much silver & they
get loose - has Cone bearing
been used on rough grinder
also too big surface should
be 3" & dead true -

10 = What is Green doing. He
should go over daily reports &
note any changes to help
Aylsworth - Has A got an
assistant in place of man who
left.

11 Make some females for
Gibbs before polishing to
Expmt on -

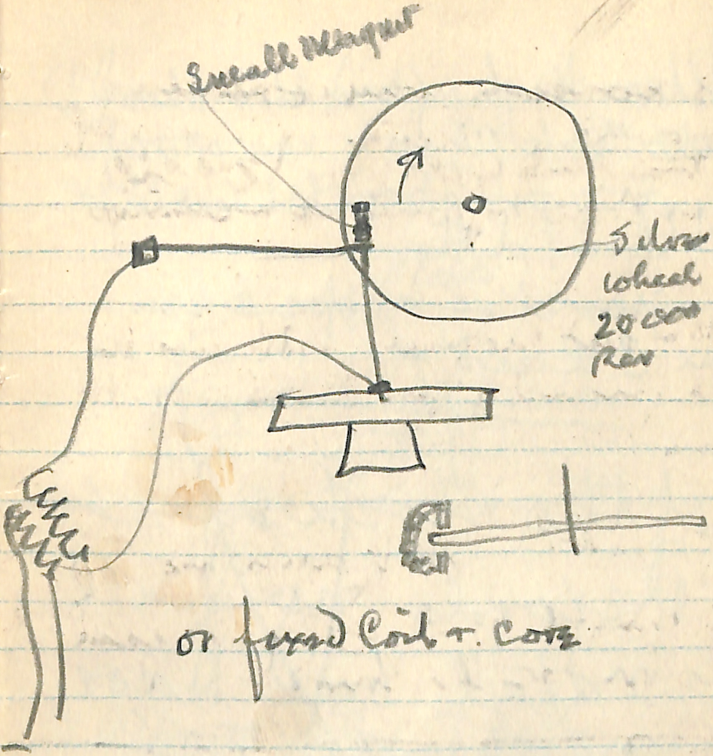
12 Investigate Jacobus
more thoroly about 647
Congestion -

13 possibly way of putting in discs fast plating cause of trapping bubbles — 2nd Oil in Copper floats up + clings

~~14 = Put learner with Riggs as inspector so Riggs can be used elsewhere~~

~~15 Let Luhr hand round Diamond points only as fast as he needs them~~

Colonial High speed Steel in Very dilute HCl, 3 @ 4 days etched Matte surface think will hold fine diamond OK Hardened + polished before etching



or fixed Coil + core

Sanderson Bros steel HCl 24 hours Very Matte + sufficiently deep for our flour grade but I think 10 hours OK for float. I put it again in acid

---

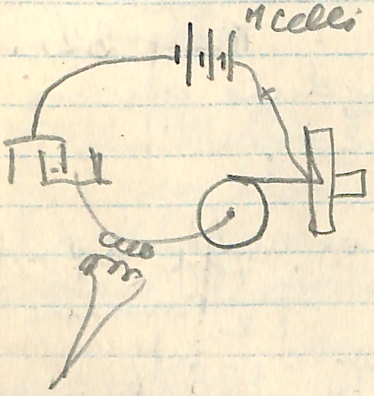
Blue Chip high Speed long checks possibly might do for Coarse

Allen High speed streaks
like Blue Chip -

Allen ditto
Most of above been
in 3 days -

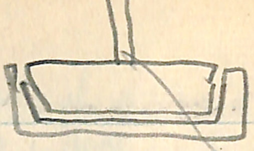
~~of the stock of old~~
~~Records now all~~
~~rated bad Have~~
~~will rate 50 →~~
~~then polish &~~
~~Rerate —~~

About adopting New
Governor on New Disc
& New Winding →



Retting in the 7 cells
increased loudness
very much think it
an amplifying action

~~Try Experiment pour~~
~~Reg wax in Reg wax to chill~~
~~1/8 thick~~

or 

~~let down into 1/8 inch Molten wax reg Cold wax & chill on~~

May 22 1921

New Schedule giving less Cracked Edges

Brot up so can just see them on top - 4 1/2 minute

Brot to 125 lbs pressure 2 minutes

Brought to 100 lbs 8 minutes

Cool 6 minutes

Safe for Diamond Dept

West Berksher Bearing

~~See Walter Miller to improve & perfect air blowing off dirt & chips on all our Recording Machines~~

Two little Bullfinch Polka 80269- 7443

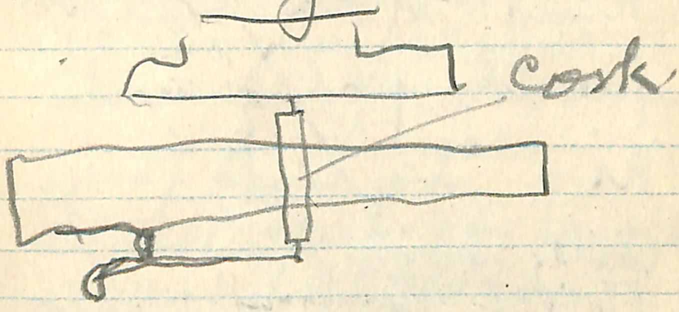
Polishing Records

~~I find Alcohol & and~~
~~fine Emery scratches~~
~~& Removes shine~~

~~Hoffman about as~~
~~Lampblack Var —~~
~~& to see that Negrosine~~
~~is sol, some negrosine~~
~~**not** sol —~~

~~Organize 1 gang of 2~~
~~A men for putting in~~
~~Phonos on N.Y. Then~~
~~Start another gang & send~~
~~1st gang on road as~~
~~teachers & keep on for~~
~~more gangs~~

Wilson-Organize Co &
become a jobber



Try a lot of things
besides Rubber with
Peachy reaction
Rosin Etc to get 5 in
rise of flex for
phonos

~~Neill grade 1/50~~
~~Reprints from old~~
~~stock w A1 after~~
~~sanding~~

~~Make some slips of
lead & other metals
for stripping onto
Ni - Try lead, Mg
with Boric acid or an
acid not giving sol
salt with Mg -~~

~~get report Folsom of
3 Masters destroyed.
in Vault something
got on them - they
had females & yet
had it recorded in
NY - Run it down~~

7906, spoilt in Vault
by Liquid
also recorded played
when we had females

~~Taylor Insp 24 June 16
shows how $5,760 can be
saved per year by change
in our Envelope system~~

Fred Ott made a Varnishing
Machine lately fixed & improved
we dropped it take it
up again ~

amps

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LIST OF INSPECTORS JUNE 14, 1921.

LEFAX FILING INDEX

A	J. P. Burke	Primary Battery
A	R. A. Hopkins	Powder Blank
A	L. C. Wilcoxen	Experimental Experimenter 24 Bldg.
AB	J. I. Taylor	General Inspector 24 Bldg.
AB	P. R. Smith	Plating Inspector Disc Plant
B	P. J. Ricklin	Storage Battery Mine Lamp, etc.
A	C. W. Bissell	General Inspector Storage Battery
A	H. H. Browne }	(new man) Storage Battery with Ricklin&Bissell
AB	Alfred Hand }	new in ESB – Starts June 20th.

Regeneration

TESTING RECORDS

A	AA	A	AB
J.E. Neill,	E. Hazard,	C. Ehricke,	R.G. Lounsbury

A	E. L. Woodfin	Cabinet Plant, New London, Wis.
A	J. J. Burns	Cabinet Plant, New London, Wis.
A	G. C. Harris	General Inspector
	Walter Archer	Mucker
AB	M. I. Greene	~~Polishing Machines, etc.~~ 21 Bldg
A	W. P. Boyd	Working on Female Defects
A	Douglas Brown	Understudy to Boyd

OFFICE

	AB	A	A
Altengarten	Starrett	Jones	Roehm

INSPECTORS OUTSIDE OF OUR OFFICE

A	S. N. Riggs	Diamond Job
BC	J. M. VanderVoort	Cylinder Record
A	Manchester	Printing Department 24 Bldg.
A	Ramsey	" " " "
A	Borden	In Powder Blank
A	Field	" " "
AB	Kurtze	Varnish & Baking
A	Rigby	Inspec.
A	Hemphill	Production Dept. 24
A	Mayer	" " "
B	Dimmick	Fast Plating 24 Bldg
A	Ivory	" " " "
A	Bradshaw with Lamb ESB	
	Folsom	Plating Dept. Disc.
AB	Powers with Egerton	
A	Douthert	Polishing Room 22B.
AA	S. A. Halsey	"A. A." with Chas Edison

A #1

S.E.Drummond with Hanley

H. M. Lyons " (AB (

Padilla with Folsom (C)

KasaKove " "

~~Get Openion about Harry~~
~~Lauder records~~

~~Correct our Records~~
~~to show producers~~
~~+ non producers~~ –

Apply only for Pat Diaphm
with an additional tension
Member whose natural period
is higher than any note used
in Music.

Hayes try very high tension
member 6 to 8000 sec

~~See if Condensite Diaphs~~
~~been patented if not~~
~~patent for Repdcr~~
~~shellac oxydizer see~~
~~if was pat'd relevant Dia~~
~~of many sheets~~

~~Try bilt up paper diaphm~~
~~of Condensite~~ ~~now op~~
~~+ also try 5 to 600 tension~~
~~memb see if improves~~
~~Chords on piano + Orch~~

~~Try Grafite v shellac or~~
~~other varnish binders~~
~~to paint around Label~~
~~at the Edge on Masters~~

~~Tell Hayes studio~~
~~gives no details in~~
~~daily report~~

Offer 6 Records to
purchasers for every one
they get of friends to
plant & sell –

~~Ask Stevens what Fox~~
~~has done —~~
~~also if we have reduced~~
~~prices to Mount Calaly~~

~~Fagan asks me about~~
~~List prices for Andison~~
~~Cells & Discount~~
~~ditto new Miners~~
~~Lamp —~~

~~Regenerated Cells are~~
~~to be Sold as New~~
~~with our guarantee~~
~~& Rented on a basis~~
~~we will agree on~~

~~Each Dept Phones to~~
~~have A m for inspector~~
~~& when off be a~~
~~manager & then an~~
~~inspector over~~

~~Write up new~~
~~6 Questions —~~

Try Balata, Jutelong
we have 100 lbs in
Bldg 1 (Hurley) for substitute
Celluloid, Load with
China clay & perhaps
Cotton fibre

glue-~~rotate~~ hollow mandrel
partially closed ends
pour in cylinder, till solid
then put in Mandrel & let
it shrink on it, ? ?

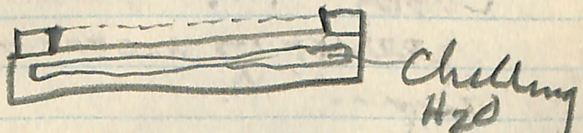
Tell Hanley I can coat
a glass cylinder in
vacuum with Ni or gold
or any metal quite thick
on which he can deposit
more nickel or say
copper which dont
peel & over this he can
deposit Ni.

Also tell him to
try on his silver
deposits with
formol to plate Cu
first & then Ni

~~See Kents book &
figure out how much
water condensed in
platters.~~

~~Safe for Studios
for Recorders?~~

Get a chill & edge



Remove edge &
use on chill or in a plate
laid on chill.

~~Sequence of putting out records~~
~~June 20 /21~~

~~1st After matching sample record made 1 Record each line is sent to all our jobbers~~

~~2 When prints are made Com listens Hayes Leonard Walsh Wheeler, either Paullin or Humphrey, Production orders issued~~

~~3 It is 10 days before samples are sent to Jobbers~~

~~4 They wait till they hear from jobbers - This causes a delay averaging 7 days as soon as all jobbers orders arrive we start packing all those already made~~
~~(Note chance for Congestion)~~

~~5 After jobbers orders are received they are given to Mitchie + he has charge after this~~

Men Expenly

Fred Ott	55	A Jordan	30 chow
W Hayes	60	L Ott	50
H Lyons	30	G Tate	30
J Burns	35	G Yee	60
Hanly	40	C Dalley	50
~~[illegible]~~	~~50~~	E Doughty	77
V White	15	G Hard	30
G McMullen	50	E Smith	60
A Hoffman	60	~~F Schmacke~~	~~52~~
P Payne	40	J Herbert	45 Chw
Gaff	60	W Ganaway	45 chw
J McCarthy	35		
S Moore	60		
Warney	90		
Drummond	30		
rry	50		

Music Room

C B Hayes	45	
L Mazzei	35	
Mrs Zugrund	50	4 days
" Amirault	20	
E Jandas	25	
F Losay	100	
H Phillips	38	
G Werner	70	

J Wheelan	35
M Haberle	14
W Gibbs	134
~~F McIntosh~~	~~96~~
H Graham	53
H Brady	50
~~J Schroeder~~	~~25~~
Miss C Schill	32½ CH

The Inspector

Try Expt Coat blank with China clay or alcohol. Etc where Label is - dry & print, Think label will 'fasten clay to Record - also Try Condensite Varn thin + MgO or clay Bake & Reprint —

Agate Roller

Gibbs, = I think glass discs ground dead true best & most powerful friction for amplifying phono

Patent plating Iron with Req $CuSO_4$ Sol by 1st immersion in heavy density Current + Subsequent Reduction —

Patent the Lap for Diamond + other abrasives when get it —

Kleine about Menagerie Pictures all animals —

Expmt on plating Cu to all kinds iron dip with great density + transfer to Req bath patent

~~Dont forget 50% from Cost iron + 50% Expense in drawup profits of OK Patent.~~

We have [illegible] times OK Never used on July 8th 1921 1100

~~Why not let off 1 gang powder blank makers + men in proportion + Operate on Equivalent Represents Saving the wages + material —~~

Make out a list of Every powder to treat Check for polishing

~~Precipitate to form~~
~~Carbonate Calcium &~~
~~boil to get more~~
~~Crystaline for~~
~~polishing &~~

~~Also heat Reg Chalk~~
~~& use water to get~~
~~rid of sand~~
~~then dry - washing~~
~~with distilled & then~~
~~heat before put in~~
~~Kerosene -~~

~~Precip CaCl~~
~~with Chloride Ca~~
~~& wash & dry~~

~~See Chippendale~~
~~Shearton & Hepplewhite~~
~~models of chairs &~~
~~decide on giving~~
~~better Value to Hepplewhite~~

~~Make 1 attachment for~~
~~polishing Reproduced~~
~~& those lot of OK~~
~~Make 100 for Baby~~
~~Balay~~

Vac or other pump to
get water out of plates
of press

~~30% for returned~~
~~[illegible]~~

Rays Chalk — 0.16 Wate

New Polisher July 10/21

Benzol + Light Merck Magnesia Carbonate
for Cleaning Moulds + Rouge
+ Kero.

Common Lamp Kerosene
100 CC 15 grams new
Reg record Chalk sand
out, Over + back - Kero for
" " " Alcohol + Mag for
" " " Clean - not for

24 Records graded bad
70% Rated Fair of which
2 fair to good Elmich
[illegible] 100%

Take out patent yrs
Regeneration - sep pat.
for ~~regenerating~~ mix out of
tubes - Cover it every way as
when old patents out these will
hold the business

Make up Estimate if we
Cant get moulds ready
for reg supplements way
ahead Without Extra
Labor Cost.

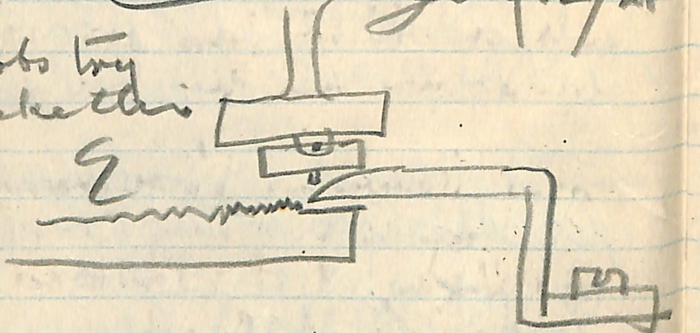
~~See Hayes + W Miller arrange~~
~~to get supplements~~
~~ahead for part of next~~
~~year of recorded stuff~~
~~+ to diminish reg~~
~~monthly sup to current~~
~~stuff only + flashes -~~
~~+ cut expenses down~~

Test old stuff personally

See Whalen gets the Repdr setter & if OK make 100 & test 1 5000 times — & have a cheap spcl tool to bore holes & put on phono —

July 12/21

Gibbs try make this



Position for repdr 10" can swivel for 12"

~~Look up again ordered screwing machine putting in screws in Mould holder see what labor saving is —~~

See Luhr — all new phono have new winder to stop breaking peoples hands we have a model —

Tell Rigg Eatons Expt girl with internal lap got 15 OK points net per Karat,

Try Repaint Varnish [illegible] after baking — with Acetone it dissolves it get rid bubbles —
Also Vac & Auto Var Machine feeding from Center.

July 13/21

Dally blank

Clay	3000 grms		66.8
	997	Binder	22.2
	488	Flock	10.8

Binder ½ Rosin ½ Linseed
with 5% PbO_2

Formula Book

Reg Chino + Lampblack
worked since Dinwiddie days

Reg China No Lamp black
[illegible] Negrosine.

Late July Expmt no
sandrac + No free
phenol but same 6/4
now on time test

Now all above made
wks ok.

Press Schedule when
Manchester took hold
Schedule now used
for Reg prints July 10
Schedule for reprint

Formula for Tin Chloride

" for Aluminum "

Describe how mould
wiped + Al. Cl put on
how much each time

Schedul July 14 for
Polishing Wkg Moulds
what used

Formula making
Resin

Describe exact process
in Digester etc

How Rosin dissolved
Alcohol & other
ingredients put in

Formula for Al
& Rosin mix

Formula for
powder mix

Process in Mixer
Vac Dryer &
grinding sieve
tests

Formula put on Label

Formula Electrolytes
Ni slow plate
ditto fast plate
Bath temps
Rotations, pt feed
ditto Fast Ni
" Copper slow
" " fast

8/4 Selenium how to
make-formula

Formula Rubber
Backing
+ process

Formula + schedule
Jobcat Records

Formula Cleaning
solution -

Formula dip for
Cabinet Separators

Formula + process
for Diaphrms

Formula + process
plating Ni on
Diamonds

Formula making
Cut plates +
process -
Oxydizing
Cleaning + Separating
Returned plates +
holders

Formula regenerating
Reclamation plant
products

Plating flake
Separating flake
process + solution

See if Folsom
puts Cu in Currentoy
+ Ni current off - way old

~~Charles about raising Halsey's Salary to 45 —~~

Ramsay is no good 1st He told me daily report of diamonds was wrong then I told him get up report he could swear to & sign name now several months after says report don't give correct results Says if made 33000 daily it would cut making 21000 it wouldn't absurd

2nd Chems recorder wearing had OK for several days then visible wear which was 150 to 100 started down 75 60 40 20 10 4 2 showing white I had to find that it was reproducing diamonds chipped

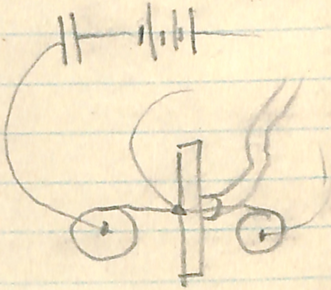
Caught ~~we~~ him in a
misstatement about
Whalens Examination
a downright lie —

Put as A1 inspector
thereafter substitutes him
when he learns

Blanks Dept short of
alcohol Can measure
but never did investigate

140
44
14
44
35
36
37
12
25
23
24

434



140
44
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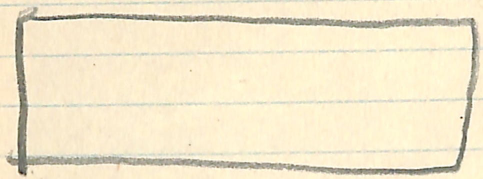
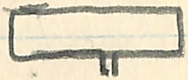
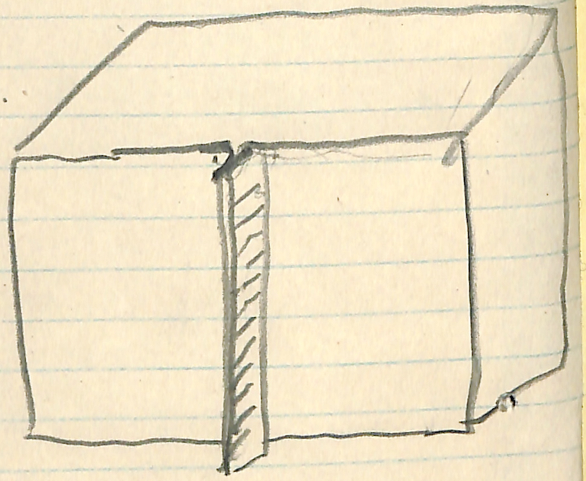
434





,015



307
96 16
8
128

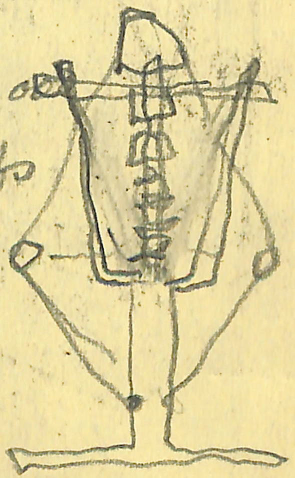
145
125
19
20 000 000
100 000 000
12389
003.

12
300
36

12 inches

389 3 36 inches paper

36 | 1728 | 48
144
288



5000
60 lbs
2
30
60
180

~~23~~

200000
1

50 per 1000
5000 - 100 000
50,000 [illegible]
20

307
96
903 (960 (24
806
0
154

1000000
1

240
0

280 | 1 000 000 (3571
840
1600
1480
2000
1960
40